

Fig. 1 Block diagram representing the architectural functions of a pyro-optical sensor system based on modulation of the transmissivity of a carrier beam through a pyro-optical-film (prior art)

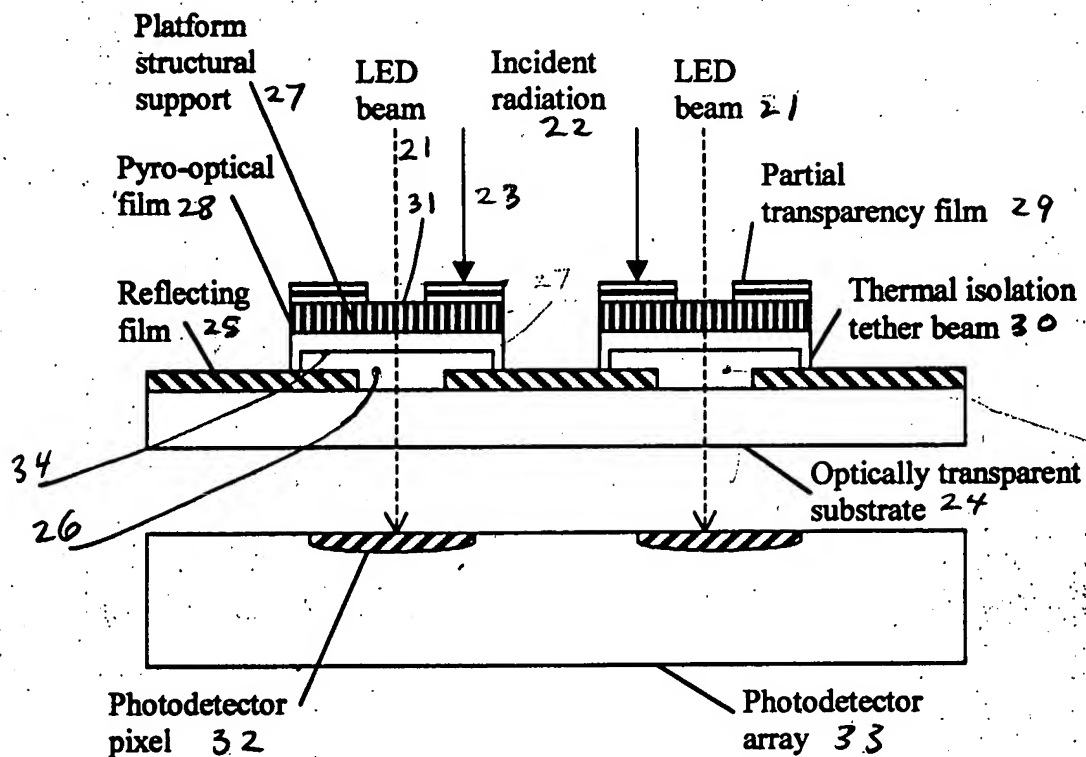


Fig. 2 Cross-section schematic view of embodiment 1 a pyro-optical pixel with Fabry-Perot structures optimized for infrared sensor performance at a specific wavelength band.

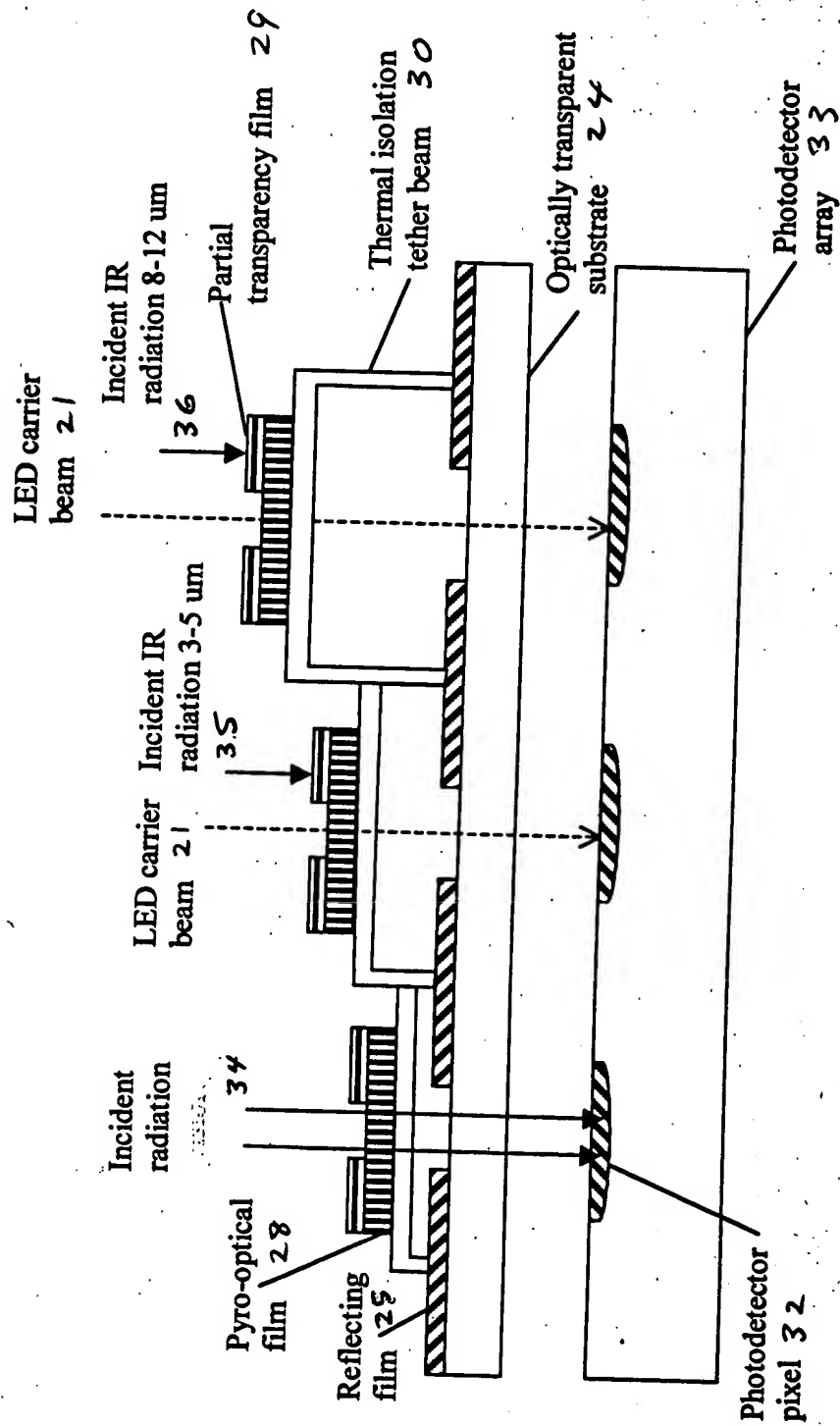


Fig. 3 Cross-section schematic view of three pixels with response optimized for three radiation wavelength bands: visible, 3-5 micrometers, and 8-12 micrometers.

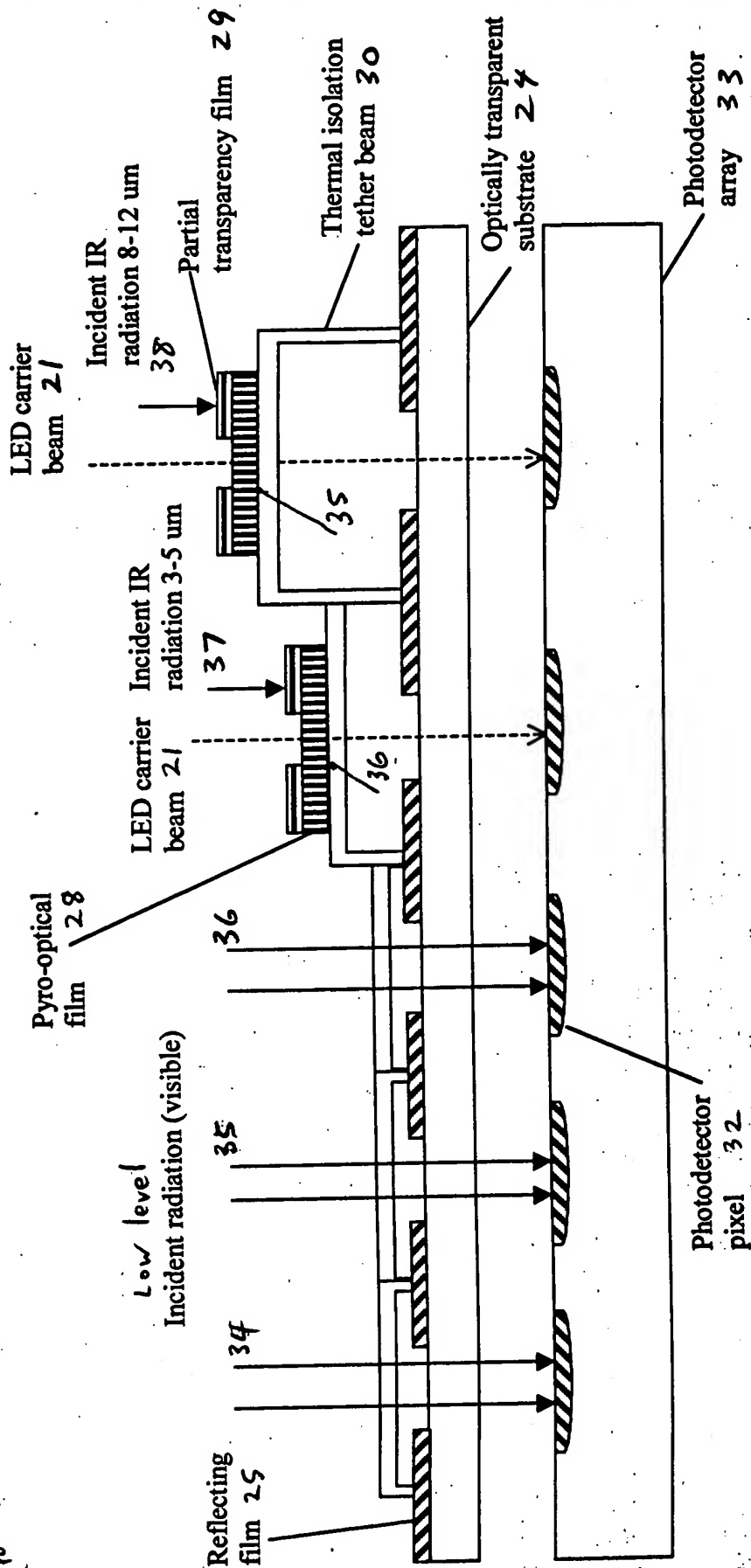


Fig. 4 Cross-section schematic view of embodiment 3 five micromachined pixels positioned over a CCD or CMOS imager arranged to provide sensitivity in separate arrays for red, blue, green (visible), 3-5 micrometers, and 8-12 micrometers radiation wavelength.

*coplanar*

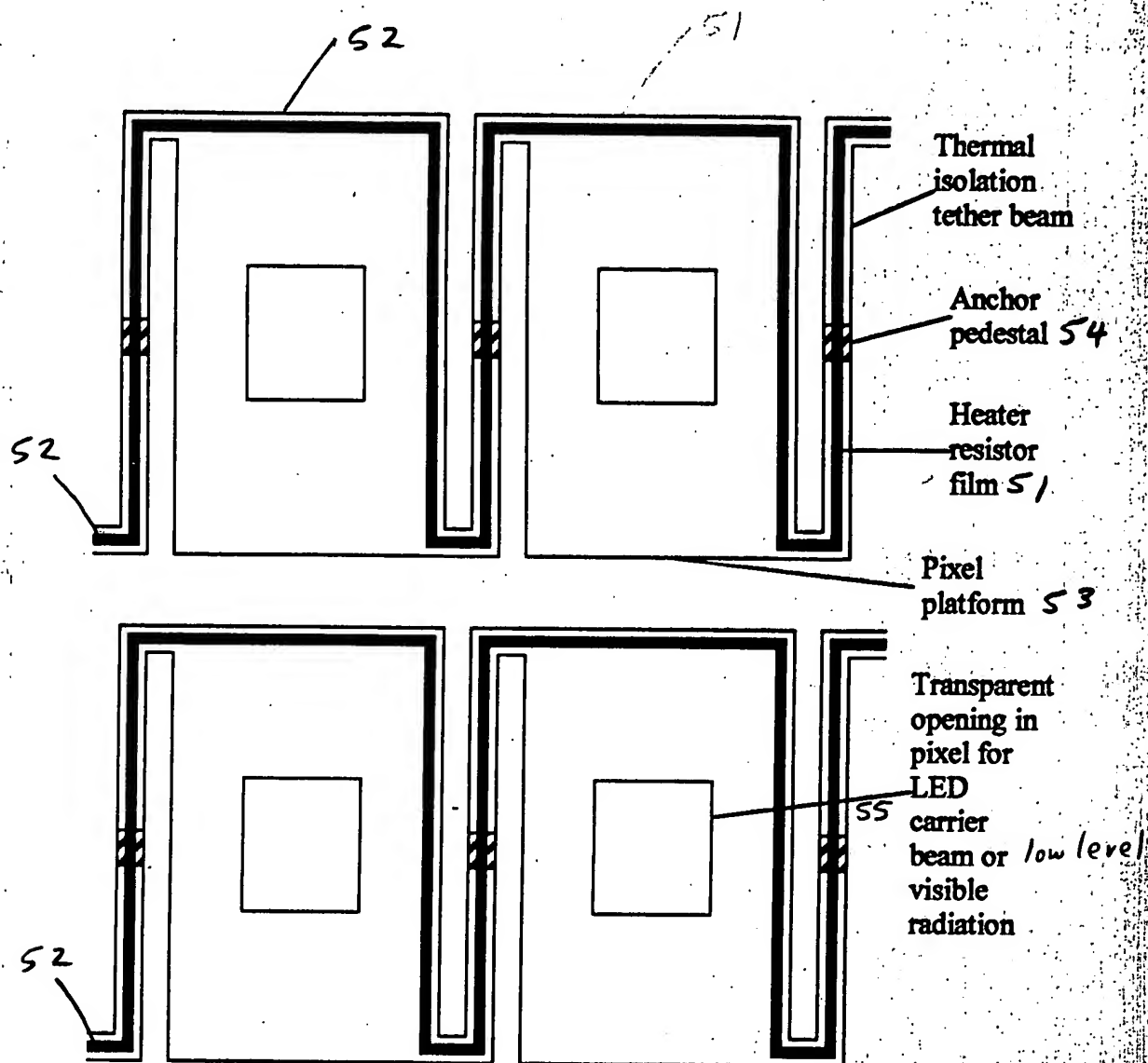


Fig. 5 Top view of a 4x4 pyro-optical pixel array with integral thermal dithering heater element (drawing note: the x-pixel must be the same as y-pixel)

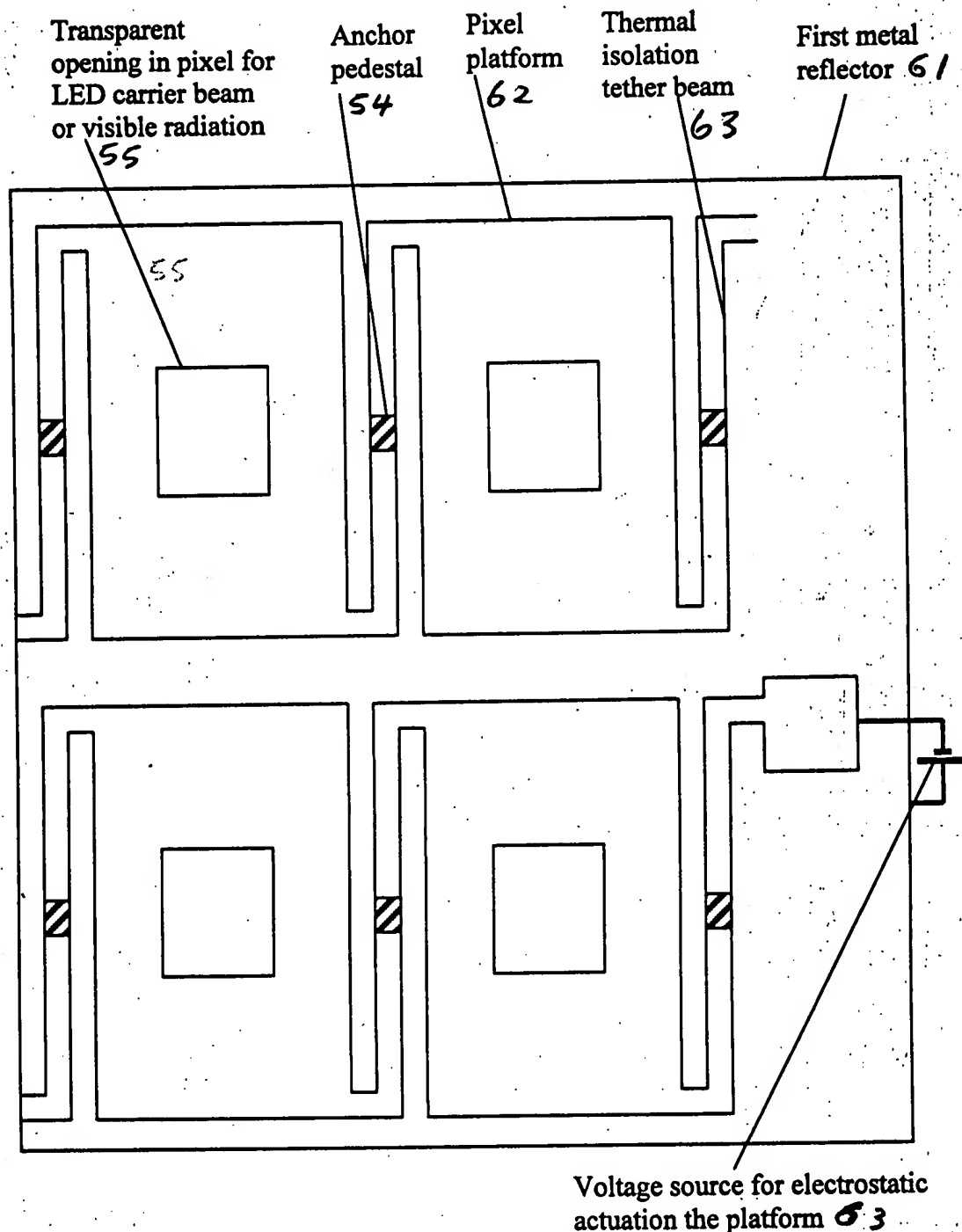


Fig. 6 Top view of a 4x4 array of pixels overlaying the metallic reflector in configuration for electrostatic actuation of pixel for resetting the temperature of pixels to the substrate reference temperature. Pixel tether beams are flexible and permit the platform to touch the substrate when the voltage is applied between the platform and the underlying metallic conductor (embodiment 5)